Office Action Summary	Application No.	Applicant(s)	
	09/657,616	MIYATA, HIROKATSU	
	Examiner	Art Unit	
	Hai Vo	1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 January 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *44-48 and 51-54* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *44-48 and 51-54* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

1. The art rejections over Ozin et al (US 6,027,666) in view of Katz (US 6,423,770) and Kubo et al (US 5,262,515) are withdrawn in view of the present amendment. None of the cited references discloses or suggests the oriented polymer. However, upon further consideration, new grounds of rejections are made in view of Kuroda et al (US 6,846,546), Kato et al (US 5,571,579) and Mishina et al (US 5,350,539).
2. The double patenting rejections over the claims of co-pending Application 09/478,884), filed 01/07/2000, now US Patent No. 6,846,546 in view of Katz (US 6,423,770) and Kubo et al (US 5,262,515) are withdrawn in view of the present response. Similarly, The combination of the US Patent No. 6,846,546 and cited references does not disclose or suggest the oriented polymer. However, upon further consideration, new grounds of rejections are made in view of the US Patent No. 6,846,546 in combination with Kato et al (US 5,571,579) and Mishina et al (US 5,350,539).

Priority

3. Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

Double Patenting

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees.

See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 44-48 and 52 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 6,846,546 in view of Kato et al (US 5,571,579). Co-pending Application 09/478,884, filed 01/07/2000, now US Patent No. 6,846,546. Claim 1 of the '546 patent teaches every element of the presently claimed subject matter except the first portion containing an oriented polyimide that has a sequence of two or more adjacent methylene groups in a repeating unit of the main chain of the polyimide. Kato, however, teaches a liquid crystal device comprising a polyimide film on the glass substrate (column 20, lines 59-61). Kato teaches the polyimide film was subjected to surface rubbing treatment to form an alignment film. This is exactly what Applicant does to orient the polyimide film. Therefore, the polyimide film is substantially oriented. Kato discloses the polyimide having a sequence of two or more adjacent methylene groups in a repeating unit of the main chain of the polyimide (see formula (I)). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ an oriented polyimide film as the first portion of the '546 patent

because the film stably exhibits high pretilt angle irrespective of curing temperatures and excellent heat resistance (column 1, lines 25-26, 59-60).

The '546 patent does not specifically disclose the first portion comprising a Langmuir-Blodgett film. However, it is a product-by-process limitation not as yet shown to produce a patentably distinct article. It is the examiner's position that the structure of the '546 patent as modified by Kato is identical to or only slightly different than the claimed structure prepared by the method of the claim, because both articles are formed from the same materials, having structural similarity. The modified structure comprises a first portion containing an oriented polyimide, and a second portion containing silicon and formed on the first portion. The second portion has tubular pores which are aligned uniaxially and extend a boundary surface between the first portion and the second portion. The oriented polyimide has a sequence of two or more adjacent methylene groups in the repeating unit present in a main chain of the polyimide. It is noted that if the applicant intends to rely on Examples in the specification or in a submitted Declaration to show non-obviousness, the applicant should clearly state how the Examples of the present invention are commensurate in scope with the claims and how the Comparative Examples are commensurate in scope with the '546 patent as modified by Kato.

6. Claim 51 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 6,846,546 in view of Kato et al (US 5,571,579) as applied to claim 44 above,

further in view of Ozin et al (US 6,027,666). The '546 patent does not specifically disclose the pore structure containing a surfactant. Ozin, however, discloses a mesostructured material for use in optoelectronics having a film of tubular mesopores formed on a high density polyethylene (HDPE) substrate (column 5, lines 59-64; column 9, lines 22-25). Ozin teaches the mesopores extending parallel to a major surface of the film (claim 24, column 8, lines 20-30). Ozin discloses that the mesostructured material contains silicon (column 7, lines 25-27). Ozin discloses the mesostructured material being formed by hydrolyzing a silicone alkoxide in the presence of surfactant (column 5, lines 26-34). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ a surfactant in the pore structure motivated by the desire to control the degree of porosity of the structure.

7. Claim 53 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 6,846,564 in view of Mishina et al (US 5,350,539). Claim 1 of the '546 patent teaches every element of the presently claimed subject matter except the first portion containing an oriented polyimide that has a sequence of two or more adjacent methylene groups in a repeating unit of the side chain of the polyimide. Mishina, however, teaches a liquid crystal device comprising a polyimide film on the glass substrate (example 1). Mishina teaches the polyimide film was subjected to surface rubbing treatment to form an alignment film (example 1). This is exactly what Applicant does to orient the polyimide film. Therefore, the

polyimide film is substantially oriented. Mishina discloses the polyimide having a sequence of two or more adjacent methylene groups in a repeating unit of the side chain of the polyimide (claim 4). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ an oriented polyimide film as the first portion of the '546 patent because the film stably exhibits high pretilt angle irrespective of curing temperatures and excellent heat resistance.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 44-48, 51, 52 and 54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ozin et al (US 6,027,666) in view of Kato et al (US 5,571,579). Ozin discloses a mesostructured material for use in optoelectronics having a film of tubular mesopores formed on a high density polyethylene (HDPE) substrate (column 5, lines 59-64; column 9, lines 22-25). Ozin teaches the mesopores extending parallel to a major surface of the film (claim 24, column 8, lines 20-30). Likewise, the tubular pores are aligned uniaxially and extend alongside a boundary surface between the film and the substrate. Ozin discloses that the mesostructured material contains silicon (column 7, lines 25-27). Ozin discloses

the mesostructured material being formed by hydrolyzing a silicone alkoxide in the presence of surfactant (column 5, lines 26-34). Ozin does not specifically disclose the substrate containing an oriented polyimide which has a sequence of two or more adjacent methylene groups in a repeating unit of the main chain of the polyimide. Kato, however, teaches a liquid crystal device comprising a polyimide film on the glass substrate (column 20, lines 59-61). Kato teaches the polyimide film was subjected to surface rubbing treatment to form an alignment film. This is exactly what Applicant does to orient the polyimide film. Therefore, the polyimide film is substantially oriented. Kato discloses the polyimide having a sequence of two or more adjacent methylene groups in a repeating unit of the main chain of the polyimide (see formula (I)). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ an oriented polyimide film as the substrate of Ozin because the film stably exhibits high pretilt angle irrespective of curing temperatures and excellent heat resistance (column 1, lines 25-26, 59-60).

None of the applied references specifically discloses the substrate comprising a Langmuit-Blodgett film. However, it is a product-by-process limitation not as yet shown to produce a patentably distinct article. It is the examiner's position that the structure of Ozin as modified by Kato is identical to or only slightly different than the claimed structure prepared by the method of the claim, because both articles are formed from the same materials, having structural similarity. The modified structure comprises a first portion containing a

polyimide, and a second portion containing silicon and formed on the first portion. The second portion has tubular pores which are aligned uniaxially and extend a boundary surface between the first portion and the second portion. The polyimide has a sequence of two or more adjacent methylene groups in the repeating unit present in a main chain of the polyimide. It is noted that if the applicant intends to rely on Examples in the specification or in a submitted Declaration to show non-obviousness, the applicant should clearly state how the Examples of the present invention are commensurate in scope with the claims and how the Comparative Examples are commensurate in scope with Ozin as modified by Kato.

10. Claim 53 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ozin et al (US 6,027,666) in view of Mishina et al (US 5,350,539). Ozin discloses a mesostructured material for use in optoelectronics having a film of tubular mesopores formed on a high density polyethylene (HDPE) substrate (column 5, lines 59-64; column 9, lines 22-25). Ozin teaches the mesopores extending parallel to a major surface of the film (claim 24, column 8, lines 20-30). Likewise, the tubular pores are aligned uniaxially and extend alongside a boundary surface between the film and the substrate. Ozin discloses that the mesostructured material contains silicon (column 7, lines 25-27). Ozin does not specifically disclose the substrate containing an oriented polyimide which has a sequence of two or more adjacent methylene groups in a repeating unit of the side chain of the polyimide. Mishina, however, teaches a liquid crystal device comprising a

polyimide film on the glass substrate (example 1). Mishina teaches the polyimide film was subjected to surface rubbing treatment to form an alignment film (example 1). This is exactly what Applicant does to orient the polyimide film. Therefore, the polyimide film is substantially oriented. Mishina discloses the polyimide having a sequence of two or more adjacent methylene groups in a repeating unit of the side chain of the polyimide (claim 4). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ an oriented polyimide film as the substrate of Ozin because the film stably exhibits high pretilt angle irrespective of curing temperatures and excellent heat resistance.

11. Claims 44-48, 51, 52 and 54 are rejected under 35 U.S.C. 103(a) as being obvious over Kuroda et al (US 6,846,546) in view of Kato et al (US 5,571,579).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and

reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). For applications filed on or after November 29, 1999, this rejection might also be overcome by showing that the subject matter of the reference and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person. See MPEP § 706.02(l)(1) and § 706.02(l)(2).

Kuroda teaches a mesostructured material comprising a first portion containing a polymer, a second portion formed on the first portion wherein the second portion has tubular pores. The tubular pores are aligned uniaxially and extend alongside a boundary surface between the first portion and the second portion (figure 1B). Kuroda teaches that the polymer is oriented (column 9, lines 24-25). Kuroda teaches the first portion comprised of a Langmuir-Blodgett film (column 5, lines 25-30). Kuroda teaches the second portion containing silicon, silica (column 5, lines 20-22). Kuroda teaches the surfactant contained in the pore structure (column 8, lines 30-32). Kuroda does not teach the polyimide resin having a sequence of two or more adjacent methylene groups in a repeating unit of the main chain of the polyimide. Kato, however, teaches a liquid crystal device comprising a polyimide film on the glass substrate (column 20, lines 59-61). Kato discloses the polyimide having a sequence of two or more adjacent methylene groups in a repeating unit of the main chain of the polyimide (see formula (I)). Therefore, it would have been obvious to one having ordinary

skill in the art at the time the invention was made to employ an oriented polyimide film as a first portion of Kuroda because the film stably exhibits high pretilt angle irrespective of curing temperatures and excellent heat resistance (column 1, lines 25-26, 59-60).

12. Claim 53 is rejected under 35 U.S.C. 103(a) as being obvious over Kuroda et al (US 6,846,546) in view of Mishina et al (US 5,350,539). Kuroda does not teach the polyimide resin having a sequence of two or more adjacent methylene groups in a repeating unit of the side chain of the polyimide. Mishina, however, teaches a liquid crystal device comprising a polyimide film on the glass substrate (example 1). Mishina discloses the polyimide having a sequence of two or more adjacent methylene groups in a repeating unit of the side chain of the polyimide (claim 4). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ an oriented polyimide film as a first portion of Kuroda because the film stably exhibits high pretilt angle irrespective of curing temperatures and excellent heat resistance.

Conclusion

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is

filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai Vo whose telephone number is (571) 272-1485. The examiner can normally be reached on M,T,Th, F, 7:00-4:30 and on alternating Wednesdays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HV

Hai Vo

HAI VO
PRIMARY EXAMINER